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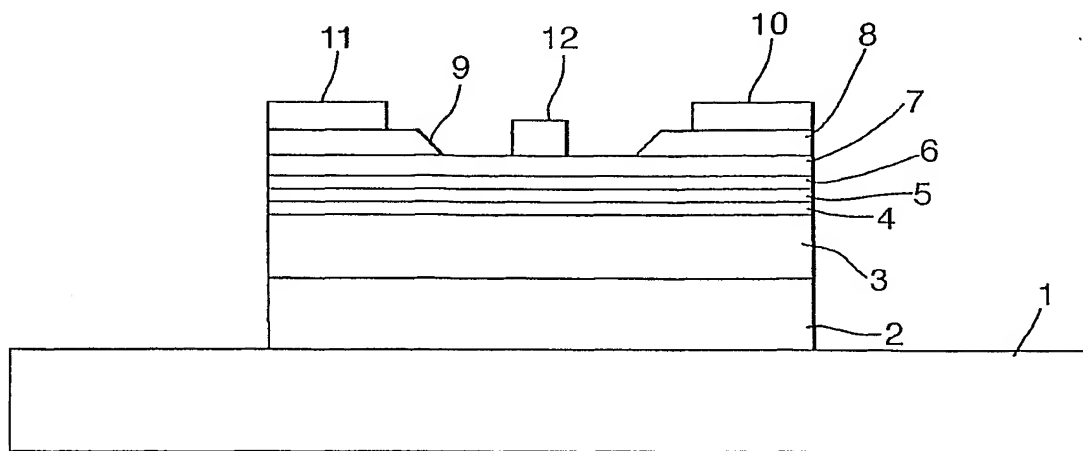
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(54) Title: STRAINED SEMICONDUCTOR DEVICES



(57) Abstract: In a transistor in which the majority carriers are holes, at least one narrow bandgap region or layer is doped p-type or contains an excess of holes and is subject to compressive mechanical strain, whereby hole mobility may be significantly increased. In a p-channel quantum well FET, the quantum well InSb well p-type layer 5 (modulation or directly doped) lies between In_{1-x}Al_xSb layers 4, 6 where x is of a value sufficient to induce strain in layer 5 to an extent that light and heavy holes are separated by much more than kT. Transistors falling within the invention, including bipolar pnp devices, may be used with their more conventional electron majority carriers counterparts in complementary logic circuitry.

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